

## CONTENTS OF VOLUME 30

### Number 1

*Jens U. Wurthner, Amal K. Mukhopadhyay  
and Claus-Jürgen Peimann*

- 1 A cellular automaton model of cellular signal transduction

*Abdel-Ouahab Boudraa,  
Sidi Mohammed Réda Dehak,  
Yue-Min Zhu, Chahin Pachai,  
Yong-Gang Bao and Jérôme Grimaud*

- 23 Automated segmentation of multiple sclerosis lesions in  
multispectral MR imaging using fuzzy clustering

*Prasun Dastidar, Tomi Heinonen,  
Jukka-Pekka Ahonen, Mervi Jehkonen and  
Gábor Molnár*

- 41 Volumetric measurements of right cerebral hemisphere  
infarction: use of a semiautomatic MRI segmentation  
technique

### Number 2

*C. De Lazzari, M. Darowski, G. Ferrari,  
F. Clemente and M. Guaragno*

- 55 Computer simulation of haemodynamic parameters  
changes with left ventricle assist device and mechanical  
ventilation

*Chuang-Chien Chiu, Shou-Jeng Yeh,  
Ching-Hsiu Chen*

- 71 Self-organizing arterial pressure pulse classification using  
neural networks: theoretical considerations and clinical  
applicability

*Niall M. Adams and David J. Hand*

- 89 An improved measure for comparing diagnostic tests

*A. Mehrabi, Ch Glückstein, A. Benner,  
B. Hashemi, Ch Herfarth and F. Kallinowski*

- 97 A new way for surgical education — development and  
evaluation of a computer-based training module

### Number 3

*C. Guiot, A. Merletti, P. Pagliaro and  
G. Losano*

- 111 Model-based assessment of pressure and flow-dependent  
coronary responses following abrupt pressure drops

*Andrew Mackinnon*

- 127 A spreadsheet for the calculation of comprehensive  
statistics for the assessment of diagnostic tests and  
inter-rater agreement

*Volker Metzler, Thomas Lehmann,  
Hans Bienert, Khosrow Mottaghy and  
Klaus Spitzer*

- 135 Scale-independent shape analysis for quantitative cytology  
using mathematical morphology

*Alfred Bruckmann and Andreas Uhl*

- 153 Selective medical image compression techniques for  
telemedical and archiving applications

## Number 4

- G. Cevenini, G. Borzelli, P. Rubegni, M. R. Massai, L. Andreassi and P. Barbini* 171 Modified Karhunen-Loève expansion for evaluating skin-colour-associated melanoma risk factors
- J. Freudenberg, T. Schiemann, U. Tiede and K. H. Höhne* 191 Simulation of cardiac excitation patterns in a three-dimensional anatomical heart atlas
- Yilmaz Muslu* 207 Numerical approach to plug-flow activated sludge reactor kinetics
- Andy N. D. Nguyen, John D. Milam, Kathy A. Johnson and Eugenio I. Banez* 225 A Java-based application for differential diagnosis of hematopoietic neoplasms using immunophenotyping by flow cytometry
- Hideaki Shono, C.-K. Peng, A. L. Goldberger, Mayumi Shono and Hajime Sugimori* 237 A new method to determine a fractal dimension of non-stationary biological time-serial data

## Number 5

- Mark M. Stecker* 247 Generalized averaging and noise levels in evoked responses
- Giuseppe Boccignone, Angelo Chianese and Antonio Picariello* 267 Computer aided detection of microcalcifications in digital mammograms
- Neal W. Sanders and N. Horace Mann III* 287 Automated scoring of patient pain drawings using artificial neural networks: efforts toward a low back pain triage application

## Number 6

- Matjaž Veselko and Ivan Godler* 299 Biomechanical study of a computer simulated reconstruction of the anterior cruciate ligament (ACL)
- S. Berga, F. Bourhaleb, R. Cirio, J. Derkaoui, B. Gallice, M. Hamal, F. Marchetto, V. Rolando and S. Viscomi* 311 A code for hadrontherapy treatment planning with the voxelscan method
- Prasun Dastidar, Juhani Mäenpää, Tomi Heinonen, Tapio Kuoppala, Milko Van Meer, Reijo Punnonen and Erkki Laasonen* 329 Magnetic resonance imaging based volume estimation of ovarian tumours: use of a segmentation and 3D reformation software
- Martin Kompis, Markus Oberli and Urs Brugger* 341 A novel real-time noise reduction system for the assessment of evoked otoacoustic emissions
- Erwin Tafeit, Reinhard Möller, Karl Sudi and Gilbert Reibnegger* 355 Artificial neural networks as a method to improve the precision of subcutaneous adipose tissue thickness measurements by means of the optical device LIPOMETER

